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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,619	07/01/2003	Chih-Kuang Wang	2031001	4017

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Pro-Techtor International Services
20775 Norada Court
Saratoga, CA 95070-3018

EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,619

Applicant(s)

WANG ET AL.

Examiner

Andrew T Sever

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 1-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1-8 are objected to because of the following informalities: the use of the term retracting and first and second housing is not consistent throughout the claims. Appropriate correction is required.

Claim 1 defines the second housing as being retractable relative to the first housing which would define it as the inner housing or part 12 in applicant's figure 4, however this conflicts with claim 6 and with applicant's specification which defines part 12 as the second housing. For purposes of the prior art rejection applicant's figures 4, 5, and 6 will be used and compared with the prior art for comparison of where the inlet ports are located relative to the inner housing (being part 12 of applicant's figures) and the outer housing (being part 14 of applicant's figures) and these terms will be used for the rejection instead of first and second housing. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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2. Claims 1, 3, and 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Chimura et al. (US 6,709,115.)

Chimura et al. Teaches in figures 6-9 a projector comprising:

A casing;

A plurality of inlet ports (2b) formed on the casing

A plurality of outlet ports (45) formed on the casing (see figure 8c)

A light source (53) positioned within the casing;

An optical engine for processing light rays from the light source and projecting an image onto a display screen (the optical engine is not shown but is inherent, a projection lens 8 is provided for projection the image onto the screen); and

A fan (9) installed within the casing to suck air streams into the casing from the inlet ports (4b) and to exhaust the air streams out of the casing form the outlet ports (45), wherein a buffer chamber is defined among the fan, the outlet ports, and the casing (see figure 8b (where the buffer chamber is expanded and compare to figure 7B where the buffer chamber is retracted) and the casing comprises:

An outer housing (2); and

An inner housing (4), which is retractable relative to the outer housing so that a volume of the buffer chamber may be changed.

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With regards to applicant's claim 3:

Chimura et al. teaches a driving device (13) for moving the both housings relative to each other.

With regards to applicant's claim 6:

As shown in figure 6 the inlet ports (2b) are formed on the outer housing and the outlet ports (45) are formed on the inner housing.

With regards to applicant's claim 7 and 8:

Since the air stream bends at a 90 degree angle (the inlet ports are on top of the projector while the outlet ports are at the back requiring the air stream at some point to bend at 90 degrees), the inner and outer housing move both in a direction perpendicular and parallel to the direction of the air stream (the housings move perpendicular relative to the direction of the air stream where it drops through the inlet ports (2b) and the housing moves parallel relative to the direction of the air stream after it is bent and is directed towards the back and out the fans 9).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chimura et al. (US 6,709,115) as applied to claims 1,3, and 6-8 above, and further in view of Furuhashi et al. (US 5,951,136.)

As described in more detail above Chimura teaches a projector comprising a casing having a plurality of inlet ports and outlet ports, a light source, an optical engine, and a fan installed within the case to suck air streams into the casing from the inlet ports and to exhaust the air streams out of the casing from the outlet ports. A buffer chamber is defined among the fan, the outlet ports and the casing. The casing further comprises of an inner and outer housing which are moveable relative to each other so that the volume of the buffer chamber may be changed.

Chimura does not teach that the light source is positioned between the inlet ports and the fan. Such a positioning however is well known. Furuhashi teach in column 2 lines 58-63 that it is beneficial to position the light source near the exhaust fan so that the exhaust air is not heated by the lamp before cooling other more sensitive and cooler components. Accordingly it would be obvious to one of ordinary skill in the art at the

time the invention was made to move the lamp of Chimura to being in between the inlet ports and the fans as taught by Furuhashi.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chimura et al. (US 6,709,115) as applied to claims 1,3, and 6-8 above.
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As described in more detail above Chimura teaches a projector comprising a casing having a plurality of inlet ports and outlet ports, a light source, an optical engine, and a fan installed within the case to suck air streams into the casing from the inlet ports and to exhaust the air streams out of the casing from the outlet ports. A buffer chamber is defined among the fan, the outlet ports and the casing. The casing further comprises of an inner and outer housing which are moveable relative to each other so that the volume of the buffer chamber may be changed.

Chimura teaches a spring and a manual closing method for moving the housing, not a rack and driving gear method, however such a method is extremely well known for automating the closing and opening of a device/housing. See for example US 5,779,343 to Denley, which teaches in column 1 lines 10-40, which teaches such a rack and gear method or rack and pinion method of is extremely well known. Accordingly where it is desired to automate the opening and closing of the buffer chamber, such as when one wants to minimize stress to the device caused by improper handling by an unskilled person closing it manually, it would be obvious to one of ordinary skill in the art to include a rack and a driving gear. (It should be noted that Denley is but only one example, rack and gear is an extremely well known method of moving things.)

See *In re Venner*, 262 F. 2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)

Allowable Subject Matter

6. Claim 5 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Claim 5 would be allowable if rewritten in independent form including the limitations of claim 1 and correcting the objection above with regards to the first and second housing language, since Chimura does not teach that the both the inlet ports and the outlet ports are formed on both the first housing and the second housing as shown in applicant's figure 4. There is no motivation to modify Chimura with a prior art reference that does not have a buffer to obtain the claimed placement of the ports other than hindsight.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,820,242 and 5,692,821 to Rodriguez et al. which teaches a projector which expands in the vertical direction rather than the horizontal direction as Chimura et al. does.

US 5,404,414 to A Wrench see figures 1 and 2.

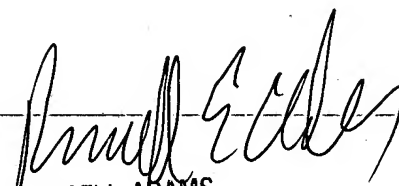
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell Adams can be reached on 571-272-2112. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800